Adaptive Reuse

Executive Summary

Historic preservation and adaptive reuse was identified as one of eight key study areas for Spring quarter, 2005. A major hub in Seattle's early development, South Lake Union has strong maritime and industrial heritage. The desire to honor the past through preservation and maintenance of historic character is consistent throughout the community.[1]

Although numerous buildings in South Lake Union meet certain criteria for historic preservation, this report does not recommend historical landmark designation for any buildings at this time. To achieve landmark status, buildings must satisfy a suite of historic and architectural considerations. Alternatively, this report explores the area of adaptive reuse. This development tool offers a way to preserve historical character without requiring formal landmark designation from the city.

Adaptive reuse is the process of converting obsolete buildings into new uses, while maintaining elements of the original design and structure[2]. This technique preserves the character of time and place, while accommodating changes in demand, technology, tastes, and uses. Based on recent zoning amendments in South Lake Union, the area is well-positioned to facilitate adaptive reuse. The city removed variance processing barriers and amended its building code to include a section specific to the rehabilitation of existing buildings. To encourage adaptive reuse, this report includes a checklist to be completed by owners and developers entering the design review process. The goal is to help developers and the Design Review Board think critically about the opportunities presented by adaptive reuse.

Introduction and Purpose

The adaptive reuse of buildings and corridors in South Lake Union is an important component in the revitalization of this working neighborhood. Current plans for a streetcar, biotech facilities, and South Lake Union Park will help promote a thriving, mixed-use center. These amenities should be complimented with a built environment that is functional, attractive, and practical. Currently, numerous buildings stand as relics of a bygone industrial era. Adaptive reuse offers the dual strategy of preserving historical character while evolving with the changing needs of business and industry.

This report provides city staff, developers, and citizens practical and educational methodology and policy recommendations to support the adaptive reuse of older buildings. Research for this report investigated current policies used by Seattle and other cities that facilitate adaptive reuse. The ultimate purpose of this effort is to assess the current state of the adaptive reuse environment in South Lake Union and to provide tools and information that encourage reuse.

Methodology

Adaptive Reuse Checklist

Existing textbooks on adaptive reuse, City of Seattle, King County, Washington State, and federal websites on preservation, and successful adaptive reuse cases from across the country were researched to prepare the checklist. In developing a practical and rational checklist, potential users were considered and the development process for adaptive reuse projects in the City of Seattle was reviewed.

Policy Review

To understand how property in South Lake Union is currently suited to facilitate adaptive reuse development, the current policy structure in the City of Seattle and the policies other cities use to encourage adaptive reuse were researched. Common hurdles to adaptive reuse, including obtaining land use variances, meeting building codes, and navigating the design review process were studied.

Decision-Making Process

The adaptive reuse process is described in an annotated flow chart, and discussed in the following section. The purpose of the flow chart is to highlight key decisions involved in adaptive reuse. Due to the dynamic nature of this type of development, the flow chart incorporates a literature review of adaptive reuse, as well as a successful, local case study. The chart located in Appendix C provides a visual representation of this case study. Numerical annotations offer detailed accounts of crucial decisions and their significance in the field of adaptive reuse. In the following discussion, principles and strategies of adaptive reuse are described. By reviewing texts which identify and describe the reuse process, this section identifies consistent themes in the reuse process.

Results/Discussion

A research summary is provided below. The Adaptive Reuse Checklist is included in the report as Appendix A.

Common Obstacles to Adaptive Reuse

Land Use Variances

The Cities of Los Angeles and Nashville have adopted adaptive reuse ordinances that promote the reuse of existing commercial and industrial buildings for residential purposes. These ordinances allow the reuse of buildings without requiring the developer to seek a land use variance. Obtaining a variance in South Lake Union is a non-issue because of the recently adopted Seattle Mixed zoning which permits a range of uses from residential to light industrial. Other incentives offered through an adaptive reuse ordinance include waived density and parking requirements, additional residential floor space as mezzanines, and flexibility in meeting code upgrades. However, the Seattle Mixed zone provides these incentives as well. Therefore, an adaptive reuse ordinance would not benefit South Lake Union.

Building Codes

Building codes are typically used by local governments to regulate the design and construction of buildings to secure public health and safety. During the past century, numerous building codes and regulations were developed to ensure the construction of safer and more reliable buildings. Building codes were generally written for new construction with little emphasis on rehabilitation work. Early building codes were intended to make old buildings unfixable, because they were assumed to be inherently unsafe for inhabitants[3]. As the existing building stock has improved in quality, it has become advantageous to rehabilitate and reuse old structures.

Massachusetts, New Jersey and Maryland were the first states to recognize the need for a rehabilitation code, also known as existing building codes. Existing building codes also exist, or are being developed in Minnesota, New York, Rhode Island, Kansas City, Missouri, Wichita, Kansas, and Wilmington, Delaware. The U.S. Department of Housing and Urban Development (HUD) has also developed model existing building codes and guidelines, based on New Jersey's code, for use by other states and interested parties. It is important to note that jurisdiction (state versus local) building codes vary from state to state. Additionally, many jurisdictions use uniform codes developed by model code organizations. These organizations are also beginning to develop model rehabilitation codes.

The City of Seattle has been proactive in addressing the unique construction of existing buildings. By adopting the Seattle Building Code to include Section 3403.12 that addresses buildings in Seattle that undergo substantial alterations, the city has effectively addressed challenges that would be encountered by a developer in a city without such a code. A copy of Client Assisted Memo 314: Seattle Building Code Requirements for Existing Buildings that Undergo Substantial Alterations, produced in November 2004 is attached as Appendix D.

Business Improvement Districts/Façade Programs

An important aspect to adaptive reuse is the façade of the building. One common means to facilitate façade improvement has been the establishment of a Business Improvement District (BID) that may issue grants and technical assistance. Two such examples are the City of River Falls, Wisconsin and Oakland, California. In River Falls, the BID issues matching grants for exterior renovations by business and/or property owner located in the BID or by those who intend to locate in the BID. Examples of qualifying expenditures include but are not limited to exterior renovations (including store signage, awnings, windows, building fronts, entries, and planters) and other expenditures as defined by the borrower and approved by the Main Street Board of Directors. No mechanical, HVAC, roofs, or electric can be included. Grants may not be used for the refinance of existing loans, working capital, or for purchase of inventory or interior renovations. These first come, first serve grants are for $.50 per $1.00 up to a maximum grant of $2,500 for signage and awnings and $.35 per $1.00 up to a maximum grant of $12,000 for all other approved improvements.

The City of Oakland has a Commercial Property Façade Improvement Program. This program offers free architectural assistance and 50% matching grants up to $20,000 (downtown) or $10,000 (specified neighborhood commercial districts) to property and business owners for eligible projects. The program is intended to enhance the visual appearance of targeted commercial districts by stimulating the rehabilitation of commercial and mixed-use buildings. Grant funds can be used to rehabilitate historic façades, exterior repairs, windows, painting, cleaning, removal of old signs and installation of new signs, awnings, exterior lighting, improvement or removal of safety grilles and guards, fencing, and landscaping.

Noted in the Community Identity section of this report is a recommendation that a BID be established in South Lake Union. If this occurs, a façade improvement program should be established to help those who adaptively reuse buildings defray

costs often associated with their efforts.

Adaptive Reuse Principles

The adaptive reuse process is both a science and an art. General concepts guide each stage in the process, but few hard and fast rules specify when and how adaptive reuse projects occur. Adaptive reuse is development in reverse; the parcel and building are pre-determined, leaving use and rehabilitation as remaining variables. The Lake Union Steam Plant is a good case study to illustrate the concepts of adaptive reuse, because it presents a typical set of questions a developer faces when considering a project (For full description, see Appendix C).

Before considering an adaptive reuse project, a developer must ask the following questions: Would market opportunity warrant the construction of a new facility at the existing location? Can the existing facility be economically modified to accommodate market demand? Even though a building may lend itself well to a particular new use, it does not ensure that market demand will guarantee success of the project after completion. Developers must research social and economic trends to verify that projects satisfy a current need. The developer in the Steam Plant case, Koll Real Estate Group, first considered condominiums. Almost half the units sold before the project was started. Unfortunately, a sour turn of events in the financial markets required Koll to consider new uses. This time, the developer accurately forecasted the viability of light industry. Zymogenetics has since contributed to the prominence of South Lake Union as an emerging biotech hub, strategically located among high-caliber public and private research centers.

After a new use is warranted, a developer begins to consider opportunities provided by the site. Koll acquired the Steam Plant just after it received designation as an historic landmark. This status solidified the community's appreciation for the building, and offered new incentives for rehabilitation. If a building is not eligible for designation, communities such as South Lake Union may still wish to see the character of old buildings retained through reuse. In addition, a cluster of similarly designed buildings suggests opportunities for a 'district' approach to adaptive reuse, such as the Pearl District in Portland, Oregon.

The developer must now begin to consider the proximity to amenities based on proposed use. If considering residential dwellings, how close is the site to transit? Will parking be provided? How accessible are neighborhood services such as schools, parks, and shopping? If commercial or industrial space is an option, then the site must provide service access and waste disposal options, for example.

Once the developer is confident that market timing and site characteristics favor a particular use, they begin to look inside the building and plan for rehabilitation.

The success of an adaptive reuse project hinges on the outcome of the rehabilitation process. Many challenges (and opportunities) emerge when redesigning and rebuilding older structures. Although rehabilitation costs can exceed traditional demolition and rebuild, careful reuse of existing infrastructure and financing strategies can support cost-effective reuse. During this stage, creativity and feasibility merge between developers, architects, structural engineers, and interior designers. The team must devise a strategy for maintaining the functions and aesthetics of the old buildings while importing new features and complying with current building codes. Koll was able to provide a unique integration of laboratories and offices, each oriented toward large windows overlooking Lake Union. The atria and center staircase were preserved to facilitate movement and provide informal gathering places. In addition, extra office space and expansion floors were created when the former penthouse was redesigned to accommodate new smoke stacks. Interestingly, biotech turned out to be the better use for the Steam Plant, when the community asked Koll to preserve the original bay-style windows.

Building and design codes also present formidable challenges but can be integrated with old and new infrastructure. The following list is an example of many interior and exterior structural and design considerations involved in a hypothetical project.

Frame Type	Electrical	Plumbing	Façade Materials
Floor Plan	Fire Exits	Load Capacity	Hazardous Materials
Height	Elevators / Stairwells	Solid Waste	Service Access
Floor-to-Floor-Heights	Floor Plan	Heating / Cooling	Water/Sewer

For further reuse criteria, see appendix D.2

Once rehabilitation plans are set, the process moves into regulatory and financing stages. Again, there are many options from public, private, and non-profit sectors. The status of the buildings and type of use will determine the opportunities for support. In our steam plant case, the landmark status offered numerous

opportunities. First, Koll secured a 10-year tax abatement for restoration of an historic landmark. They also declined a $1 million price reduction, opting instead to allow the city to conduct environmental remediation. The windfall for Koll was huge--remediation cost around $4 million. Finally, Koll received a land use variance to expand the penthouse beyond current height limits. The Landmark Board's requirement to rebuild the smokestacks created a legitimate rationale for the decision. These regulatory and financial tactics enabled to Koll to complete the project on time and within budget.

Zymogenetics still occupies the Lake Union Steam plant and remains a leader in South Lake Union's biotech industry. But in these projects, the developer must be credited for his her role in neighborhood revitalization. Much of Zymogenetics' success and popularity can be attributed to creative and bold steps taken by Koll Real Estate. The group seized opportunities created by the building's landmark status. They proposed two viable alternatives for new uses, and involved the public throughout the process. Using pre-existing design features and building materials, Koll and associated parties were able to create a unique and functional space for light industry and finish ahead of schedule. Finally, the group took advantage of numerous regulatory and financial incentives to achieve success. The result has breathed new life into a significant building from the city's past, and a neighborhood that is hopeful about the future.

Analysis/Recommendations

The adaptive reuse of buildings in South Lake Union serves a number of purposes, all of which will enhance the character and rich history that this area of Seattle has to offer. Cities across the country are encouraging the reuse of buildings in order to maintain their urban fabrics while continuing to grow and accommodate economic growth. Our analysis of adaptive reuse efforts and policies in both Seattle and across the country indicates that the City of Seattle has positioned South Lake Union to grow and thrive in the decades to come.

Land Use Variances

A common hurdle for adaptive reuse projects is complex zoning variance regulations experienced by owners/developers when they attempt to change the use of a non-residential building into all or partial residential use or vice versa. This effort often adds time and costs to the development process and acts as a deterrent to adaptive reuse development. Innovative cities such as Los Angeles and Nashville have adopted Adaptive Reuse Ordinances which permit non-conforming uses in special districts.

The City of Seattle addressed the variance issue by adopting the Seattle Mixed zone into its zoning code. A majority of South Lake Union is zoned Seattle Mixed and the remaining Industrial Commercial zone in the area is likely to be changed to Seattle Mixed in the future. Because the Seattle Mixed zone permits a broad range of uses from strictly residential (with the exception of ground level space along Pedestrian 1 designated streets) to commercial, from mixed use to light industrial, owners and developers need not concern themselves with seeking a variance.

Building Codes

It has been shown that updating a city's building code to permit deviations from new building codes while maintaining the safety of the building encourages adaptive reuse of buildings and acknowledges the value of existing buildings. To address the code challenges existing buildings present to adaptive reuse projects, the City of Seattle amended Section 3403.12 of the Seattle Building Code (SBC) to incorporate Chapter 34 of the International Building Code, titled Existing Structures. SBC Section 3403.12 does not require a substantially altered building to comply with all of the current code; it requires compliance only with specific sections.

Based on discussions with developers and building inspectors, the existing building code amended by the City of Seattle appears to be effective. As indicated in the previous section, states such as New Jersey have more prescriptive and elaborate existing building codes than the City of Seattle's. If at any point in the future the current Seattle existing building code no longer functions efficiently, the New Jersey model should be considered.

<u>Façade Improvement Program</u>

The adoption of a Business Improvement District (BID) for South Lake Union is recommended in the Community Identity section of this report. There are many benefits to establishing a BID, such as improved streetscaping and marketing for BID member businesses. In regards to adaptive reuse, a BID may use funds to offer grant programs such as annual competitive façade grants or free architectural assistance. A façade improvement program would assist in defraying costs associated with adaptive reuse projects. Upon the establishment of a BID, a façade improvement program should be included. An important aspect to this grant would be that it encourages adaptive reuse projects. Therefore, the grant money should be available to projects in the process of adaptively reusing a building.

Design Review Board

The operative next step should include amending the South Lake Union Design Guidelines to include the adoption of the adaptive reuse checklist. Current architectural design guidelines for South Lake Union stress compatibility with existing structures. Supplemental guidance C-1, Architectural Context, suggests the re-use and preservation of important buildings and landmarks when possible. This is the only area in the South Lake Union Design Guidelines where the re-use of buildings is noted. A stronger commitment to adaptively reusing the existing built character for South Lake Union can be achieved with an amendment to the design guidelines combined with required use of the adaptive reuse checklist during preliminary design review.

Incentives to promote adaptive reuse would be primarily based on flexibility in zoning requirements to allow ease in design review. The checklist would act as an evaluative tool to focus information for further discussion. The potential developer would be expected to present a completed adaptive reuse checklist at the preliminary design review. With the checklist, design review discussions could include assessing opportunities for adaptive reuse of existing structures on the proposed site. The incentive offered through greater ease in design review is both desirable to the developers and enables the City to offer an incentive without a financial obligation. The current Architectural Context Guideline and the proposed Design Guideline amendment are in Appendix B.

Endnotes

1. City of Seattle, Department of Neighborhoods. South Lake Union Neighborhood Plan. May 17, 2005, <http://www.cityofseattle.net/neighborhoods/npi/plans/slu/>
2. Gause, Jo Allen. New Uses for Obsolete Buildings. Urban Land Institute. Washington, DC: 1996.
3. Syal, Matt, Shay, Chris, and Supanich-Golder, Faron, Streamlining Building Rehabilitation Codes to Encourage Revitalization, Housing Facts & Findings, Volume 3 Issue 2, 2001

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Syal, Matt, Shay, Chris, and Supanich-Golder, Faron, Streamlining Building Rehabilitation Codes to Encourage Revitalization, Housing Facts & Findings, Volume 3 Issue 2, 2001

Appendix A
Draft Adaptive Reuse Checklist and Guidance

Adaptive Reuse Worksheet

Adaptive reuse of buildings gives value to the existing fabric, while meeting the needs of a growing community. Keeping pieces of the historical character inherent to South Lake Union neighborhood can contribute to a diversity of structures capable of housing a diversity of community needs. This worksheet is an evaluative tool to assist the Design Review Board and potential developers in recognizing and rewarding adaptive reuse approaches to redevelopment in South Lake Union.

DRAFT

Adaptive Reuse Checklist

Site Name: **Site Address:** **Current use:**

Owner: **Year built:**

(1) Historic Landmark		
Landmark Status:		Yes, No
If the building in question is a designated Landmark then do not proceed with this worksheet. Landmark buildings are governed by a Historic Review Board and proposed rehabilitation or demolition must be reviewed by this board. These buildings are inherently strong candidates for adaptive reuse therefore this scorecard would be redundant.		

(2) Current Zoning Conditions		
Zone:		Seattle Mixed (SM) or Industrial Commercial (IC)
SM zone allows for a variety of uses from residential to light industrial. Limited use restrictions are dictated by the street designation to be identified below. IC zone calls for uses with industrial or commercial in nature. Conditional uses within in the IC zone include artist's studio/dwellings and lodging.		

Height Limit:		40-feet, 65-feet, 55/75-feet, 85-feet, or 125-feet
Many existing buildings do not meet the allowable maximum height in South Lake Union. If the proposed use calls for high ceilings on the first two floors the allowable height in the 65-foot and 75-foot zones may increase to 85-feet and the buildings in the 85-foot zone may be increased to 105-feet.		

Floor Area Ratio (FAR) Limit:		None, 4.5 (85' zones), 5 (125' zones)
No FAR limit except for areas zoned 85-feet or 125-feet. In 85-foot zones a FAR of 4.5 is the maximum gross floor area permitted for all nonresidential uses. In 125-foot zones a FAR of 5 is the maximum gross floor area permitted for all nonresidential uses in structures greater than 75 feet in height. If a residential building ,FAR does not apply.		

Street Designation:		P1, P2, None
Ground Floor Uses: If P1 Street, required street-level uses are on a minimum of 75% of building street frontage shall be: personal and household retail sales and service uses; eating and drinking establishments; customer service offices; entertainment uses; pet grooming services, public library; and public parks. P2 streets and non-designated streets may have residential uses on the first floor.		
Façade Transparency: P1 and P2 facades must have a minimum of 60% transparency and all other streets 30%		

Upper-level Setback Required:		Yes, No
1. Structures along upper-level setback streets must provide an upper-level setback for the facade facing applicable streets or parks for any portion of the structure greater than 45 feet in height. *2. Structures on lots abutting an alley in the SM/R designated area shall provide an upper-level setback for the facade facing an alley for any portion of the structure greater than 25 feet in height.* *3. Structures on lots in the SM/125 zone must provide an upper level setback for the facade facing applicable streets or parks for any portion of the structure greater than 75 feet in height.*		

Parking Requirements:		Yes, No
Parking requirements are dependent on the use of the property. Based on the current parking requirements in South Lake Union, will the adaptive reuse of the property require additional parking spaces?		

(3) Summarize Zoning ***[to be completed by City Staff]***

DRAFT

Adaptive Reuse Checklist

Site Name: **Site Address:** **Current use:**

Owner: **Year built:**

(4) Key Elements

	Insufficient 0	Sufficient 1	Excellent 2	Comment
Physical Features				
Existing Façade				
0=significantly modified; 1=altered; 2=original/preserved				
Assertion: *The façade intertwines the building with the urban fabric of South Lake Union.*				
Exterior Building Material				
0=Cement Block masonry; 1=Hard plaster/cement covering, 2=Clay/Stone based masonry				
Assertion: *Exterior building materials that are not as prevalent in South Lake Union and older materials should be given higher priority.*				
Ceiling Height				
0=10-feet throughout building, 1=Greater than 10-feet on ground floor and less than 10-feet on upper levels, 2=Greater than 10-feet on more than 1 floor				
Assertion: *Higher ceilings provide a number of benefits from greater flexibility for biotech or high-tech uses to potential mezzanine area for added residential space to more attractive retail space demanding higher rents*				
Method of Construction				
0=Light wood frame; 1=heavy timber construction; 2=iron/steel				
Assertion: *The method of construction indicates the durability of the structure and load capacity for additional floors.*				
Marketing Potential				
Lot Position				
0=NA; 1=Inner lot; 2=Corner Lot				
Assertion: *Corner lots offer more visibility and provide more light for residences and/or businesses*				
Historical Use Marketability				
0=Built within the decade; 1=Built within 50 years; 2=Built more than 50 years ago				
Assertion: *The historical uses of the building create marketing synergy between South Lake Union's past and future. Remaining artifacts from past use (i.e. pictures, equipment) can be incorporated into the new use.*				
Location Related to Public Transportation				
0=Greater than 1/2 mile; 1=Within a 1/2 mile; 2=adjacent to a stop				
Assertion: ***The conventional measure for walkability is 1/2 mile or less.***				
Addition Potential				
Adjoining property ownership				
0=Segmented ownership; 0=NA; 2=Same Ownership				
Assertion: *Similar ownership offers greater possibility of leveraging reuse of multiple buildings or lots making a project more attractive*				
Adjoining property condition				
0=Stable property that will not change; 1=Improved with possible meld; 2=Vacant or strong candidate to combine				
Assertion: *The potential to increase the scope and scale of an adaptive reuse project is greater when adjoining properties can also be rehabilitated.*				
Percent Lot improved				
0=less than 50% improved, 1=Majority of lot improved, height not maxed, 2=90%-100% lot coverage and maxed height				
Assertion: *A building that covers a significant portion of the lot offers greater adaptive reuse potential, while buildings that occupy a smaller area of the lot are easier to demolish*				

TOTAL POINTS: **out of** **20**

Range: *0-10* *Key elements do not suggest the structure is a strong candidate for adaptive reuse*

11-15 *Key elements suggest the structure should be considered for adaptive reuse*

16-20 *Key elements suggest the structure is a strong candidate for adaptive reuse*

(5) Site Photographs - Attach photographs of site and adjoining properties to checklist

(6) Site Summary [*to be completed by City Staff*]

Guidance Document

An applicant completing this checklist likely has a firm knowledge of the property and its improvements. The following guidance explains who completes each section and provides rationale for criteria. It should be stressed that this checklist does not consider financial implications which often drive a developer/owner's decision. The King County Assessors department (http://www.metrokc.gov/assessor/) is an excellent source for property data that may be missing.

Header

This is to be filled out by the applicant. If the year built is not known, reference the King County eReal Property System on the Assessor home page.

(1) Historic Landmark

If the applicant is not aware of Landmark status, at the State or City level, reference these two websites to confirm the site's recognized historic status:

Seattle Landmarks:
http://www.seattle.gov/neighborhoods/preservation/a.htm
Washington and National Landmarks:
http://www.oahp.wa.gov/pages/HistoricSites/Register.htm

The recognition of a building as a designated Landmark indicates that the property is protected and governed by a Landmark Preservation Board. Proposed rehabilitation or demolition must be reviewed by the Landmark Preservation Board. These buildings are inherently strong candidates for adaptive reuse; therefore, this scorecard would be redundant.

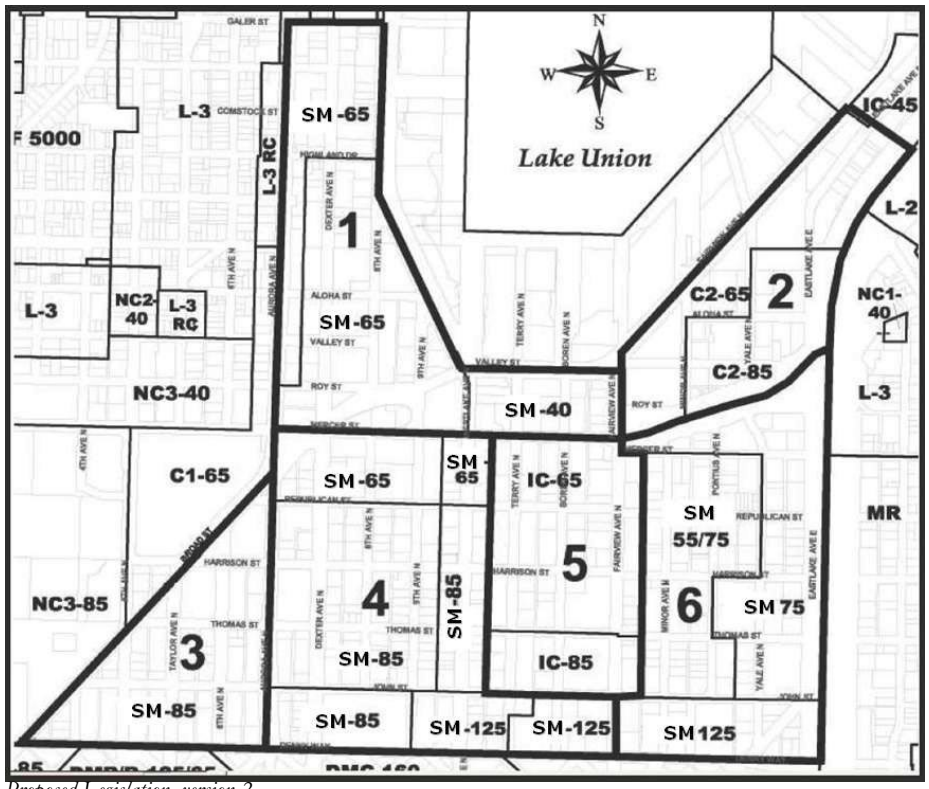
(2) Current Zoning Conditions

The current zoning of the site ultimately drives the configuration and use of the site; therefore, it is important to have intimate knowledge of the zoning environment. The following link references the Seattle Mixed Zoning amendments approved by Seattle City Council on April 18, 2005: http://www.seattle.gov/dpd/stellent/groups/public/@dpd/@plan/@proj/@slakeunion/documents/dpd_informational/cos_004439.pdf

Zone: With the recent zoning amendments to the South Lake Union area, there are two possible zoning classifications: Seattle Mixed and Industrial Commercial.

The Seattle Mixed zone allows for a variety of uses from residential to light industrial. Limited use restrictions are dictated by the street designation identified below. The Industrial Commercial zone calls for uses that are industrial or commercial in nature. Permitted and prohibited uses are defined in Seattle Municipal Code 23.50.012 (http://clerk.ci.seattle.wa.us/~public/toc/t23.htm). Conditional uses within in the Industrial Commercial zone include artist's studio/dwellings and lodging. To determine the zoning designation of a parcel, please reference the map below:

Map 1: Current Zoning Map of South Lake Union



Proposed Legislation, version 2
September 15, 2004
Map updated to reflect zoning changes

Height Limit: Height limits are depicted in Map 1. The maximum structure height either South Lake Union zone with a 65-foot or 75-foot height limit may be increased to 85-feet; and the maximum structure height in zones with an 85-foot height limit may be increased to 105-feet, when:

- A minimum of 2 floors in the structure have a floor to floor height of at least 14-feet; and
- The additional height is used to accommodate mechanical equipment; and
- The additional height permitted does not allow more than 6 floors in zones with a 65-foot height limit, or more than 7 floors in zones with a 75-foot or 85-foot height limit; and
- In the 55-foot/75-foot zone a new single purpose nonresidential structures shall have a height limit of 55-feet and single purpose residential structures and mixed-use structures with 60% or more of the structure's gross floor area in residential use are permitted to a height of 75-feet.

Floor Area Ratio (FAR) Limit: Seattle Mixed Zone: No FAR limit except for areas zoned 85-feet or 125-feet. In 85-foot zones a FAR of 4.5 is the maximum gross floor area permitted for all nonresidential uses. In 125-foot zones a FAR of five 5 is the maximum gross floor area permitted for all nonresidential uses in structures greater than 75 feet in height. FAR does not apply to residential buildings. For more specific guidelines FAR guidelines reference the Seattle Mixed zoning amendments referenced above.

Industrial Commercial Zone: Within South Lake Union, the FAR is 3.

Street Designation: Buildings along Pedestrian 1 (P1) designated streets are required to have the following street-level uses are on a minimum of 75% of building street frontage:

- 1. Personal and household retail sales and service uses;
- 2. Eating and drinking establishments;
- 3. Customer service offices;
- 4. Entertainment uses;
- 5. Pet grooming services;
- 6. Public library; and
- 7. Public park.

Pedestrian 2 (P2) designated streets are not required to have specific street level uses. South Lake Union has also created design guidelines for street level facades requiring transparency. Buildings fronting P1 and P2 streets must have facades with a minimum of 60% transparency and all other streets 30%. The following map depicts P1 and P2 streets.

Map 2: P1 and P2 Designated Streets

Proposed Legislation, version 2
September 15, 2004

Upper-level Setbacks:
Structures along upper-level setback streets must provide an upper-level setback for the facade facing applicable streets or parks, for any portion of the structure greater than 45 feet in height.
Structures on lots abutting an alley in the SM/R designated area shall provide an upper-level setback for the facade facing an alley, for any portion of the structure greater than 25 feet in height. Structures on lots in the SM/125 zone must provide an upper level setback for the facade facing applicable streets

or parks, for any portion of the structure greater than 75 feet in height. The following map depicts streets that require upper-level setbacks.

Map 3: Upper-Level Setback Map

Proposed Legislation, version 2
September 15, 2004

Parking Requirements:

Parking requirements often create an obstacle to adaptive reuse projects. It is important for an owner/developer to know the parking requirements for the current use. In considering adaptive reuse project, the owner/developer should be aware of the parking implications for any proposed future use. If additional parking is required based on a proposed land use these details must be addressed early.

Section 23.54.015 of the Seattle Municipal Code prescribes required parking in Seattle. Chart A in this section (http://clerk.ci.seattle.wa.us/~tables/2354015a.htm) details the parking requirements for each use. The amended zoning code for South Lake Union revised the parking requirements for the parcels adjoining Class 1 Pedestrian and Class 2 Pedestrian Streets. The following table details these updated parking regulations:

Table 1: Parking Requirements along South Lake Union Pedestrian Streets

Uses	Class 1 Pedestrian Streets	Class 2 Pedestrian Streets
Retail sales and service uses, except eating and drinking establishments; customer service offices; and entertainment uses, except motion picture theaters.	No parking required for the first 25,000 square feet	No parking required for the first 7,500 square feet
Motion picture theaters	No parking required for the first 150 seats	No parking required for the first 150 seats
Eating and drinking establishments.	No parking required for the first 7,500 square feet	No parking required for the first 7,500 square feet
Human Service and child care uses.	No parking required	No parking required

Proposed Legislation, version 2
September 15, 2004

(3) Summarize Zoning

This section is to be filled out by a City representative reviewing the checklist. This acknowledges that the City has reviewed the site's current zoning conditions and is aware of the requirements.

(4) Key Elements

The purpose of the Key Element section of this checklist is to allow the owner/developer to critically consider important aspects of the lot and building characteristics that may not have been considered. For each element, the applicant should assign a value, 0, 1, or 2. Then values for the 10 key elements should be summed. The maximum score is 20. A project that scores between 16 and 20 is a strong candidate for adaptive reuse. A range of 11 to 15 indicates that the building should be considered for adaptive reuse and a range of 0-10 suggests the structure is not a strong candidate for adaptive reuse.

Physical Features: There are a number of physical features that help dictate whether a building is well suited for adaptive reuse. The following four elements play a significant role in both the character of the building from the street level, as well as the owner/developer's ability to reuse the building.

1. *Existing Façade:* The façade intertwines the building with the urban fabric of South Lake Union and provides residents and visitors with a sense of history in the area.

2. *Exterior Building Material:* Exterior building materials that are not as prevalent in South Lake Union and older materials should be considered higher priority. On one end of the spectrum there is cement block masonry which is a common and aesthetically plain material and on there other is clay (brick) or stone-based masonry which is a less common material that adds character to the area.

3. *Ceiling Height:* Certain modern uses of buildings, such as biotech laboratories, require a minimum of 14-foot ceilings. Higher ceilings provide a number of benefits, from greater flexibility for biotech or high-tech uses to potential mezzanine area for added residential space to more attractive retail space demanding higher rents.

4. *Method of Construction:* The method of construction indicates the durability of the structure and load capacity for additional floors. The type and spacing of load bearing structures greatly affect the ability to adaptively reuse and add to the building.

Marketing Potential: Adaptive reuse not only adds to the aesthetic character of South Lake Union but has economic impacts as well. Leveraging a building's aesthetic character with aspects of its marketability creates economic synergy.

1. *Lot Position:* The position of the lot in relation to the street network affects visibility and light. Corner lots offer more visibility and provide more light for residences and/or businesses.

2. *Location Related to Public Transportation:* The conventional measure for walkability is ½-mile or less. Buildings closer to public transportation (particularly the proposed fixed trolley) demand higher rents.

3. *Historical Use Marketability:* The historical uses of the building create marketing synergy between South Lake Union's past and future. Remaining artifacts from past use (i.e. pictures, equipment) can be incorporated into the new use.

Addition Potential: A vast majority of the existing buildings in South Lake Union have fewer stories than permitted by zoning regulations. The ability for an owner/developer to adaptively reuse a portion of an existing building while creating additional income-generating space with additional floors or expanding to unimproved portions of their lot serves two purposes: preserving the whole or portion of a viable building and maximizing the usable space of the lot.

1. *Adjoining property ownership:* There are many examples across the country and within Seattle where buildings have been both adaptively reused and expanded. Similar ownership of adjoining lots would offer a greater possibility of leveraging reuse of multiple buildings or lots making a project more attractive.

2. *Adjoining property condition:* The potential to increase the scope and scale of an adaptive reuse project is greater when adjoining properties can also be rehabilitated. Vacant lots permit the owner/developer more flexibility in creating additional building area. Adjoining properties that are recently developed or have existing uses at their highest and best use are not strong candidates to expand a reuse.

3. *Percent lot improved:* A well constructed building that covers a significant portion of the lot offers greater adaptive reuse potential. Partially improved lots are more likely to be viewed by a developer as a candidate for demolition.

(5) Recent Site and Adjoining Photographs

The applicant should attach recent photographs to the checklist so that the City representative may have visual perspective of the building and lot as well as the adjoining properties.

(6) Site Summary

This summary section is to be completed by City Staff. This section allows the City to reflect on the opportunities and obstacles to adaptive reuse the building and lot present.

Appendix B
Draft Design Guideline Amendment

Existing Design Guideline as proposed *

C-1 Architectural Context

New buildings proposed for areas within the neighborhood with a well-defined and desirable character should be compatible with or complement the architectural character and siting pattern of neighboring buildings.

SLU-specific supplemental guidance

- Support the existing fine-grained character of the neighborhood with a mix of building styles.
- *Re-use and preserve important buildings and landmarks when possible.*
- Signage - expose historic signs and vintage advertising on buildings where possible.
- Respond to the history and character in the adjacent vicinity . in terms of patterns, style, and scale. Where possible, reveal and reclaim history use community artifacts, forms and textures.
- Respond to the working class, maritime, commercial and industrial character of the Waterfront and Westlake areas. Examples of elements to consider include:
  - window detail patterns;
  - open bay doors;
  - sloped roofs.
- Respond to the unique, grass roots, sustainable character of the Cascade neighborhood. Examples of elements to consider include:
  - community artwork;
  - edible gardens;
  - water filtration systems that serve as pedestrian amenities;
  - gutters that support greenery.

* This guideline is found on page 23 of the South Lake Union Design Guidelines, Proposed 2004. This is the only instance in the South Lake Union Design Guidelines where the reuse of existing buildings is noted.

Proposed Design Guideline Amendment

C-6 Adaptive Reuse of Existing Buildings

Adaptive Reuse of buildings with architectural design or construction consistent with the historic character of South Lake Union shall be encouraged through flexibility in zoning requirements to allow ease in design review.

SLU-specific supplemental guidance

- Require checklist completion to assess potential for adaptive reuse before new construction is proposed
- Refer to completed historical reports for South Lake Union when discussing the checklist
- Allow departures from standard code restrictions, when possible and in the public interest to act as an incentive to aid the process of adaptive reuse
- Encourage reuse when buildings possess valuable contribution to the neighborhood fabric
- Consider each building's relationship to the context of historical elements and recognize patterns such as corridors

Appendix C

Decision-making Process Flow Chart

Steam Plant to Biotech

The decision-making process in the South Lake Union's Zymogenetics building

Site History & Former Use

City of Seattle Steam Plant ca. 1915-1984[1]

Decommissioning: 1980-1984

City searches for buyer. Occupied by vagrants during interim: 1984-1988[2]

Steam Plant & Hydro House designated historic landmarks: 1988[3]

Koll Real Estate Group acquires Steam Plant: 1989[4]

Feasibility of New Uses

Koll plans to build 109 residential condominiums

Numerous public hearings[5]

Project proposal approved; state issues 10-year tax abatement[6]

Construction financing fails, despite high interest in condominiums[7]

Koll approaches biotech firm capable of internally funding an adaptive reuse project

City shares environmental remediation costs to increase feasibility[8]

1991: Koll proposes office and lab facility to Zymogenetics[9]

Proposed use requires approval once again from citizen's groups[10]

Community groups request preservation of original smokestacks and window system

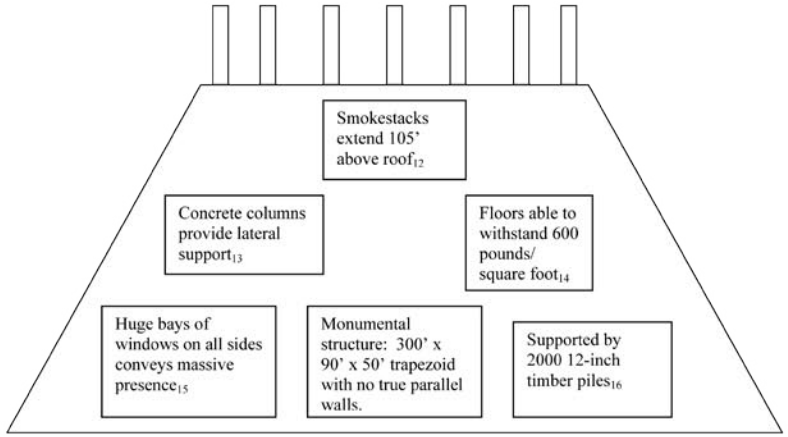
Koll initiates $25 Million renovation

Despite the massive overhaul, biotech provides a better match than condominiums[11]

Steam Plant to Biotech

The decision-making process in the South Lake Union's Zymogenetics building

Physical Configuration



Conversion

Design advantage: structural work completed top-down[17]

Good fortune: discovery of 1915 UW research paper describing original construction plans

Koll and Zymogenetics outline needs for laboratory, mechanical, administrative, and gas systems. Plant's main structural components deemed adequate.

Careful planning among architects, engineers, designers, and subcontractors keeps project within budget and deadline[18]

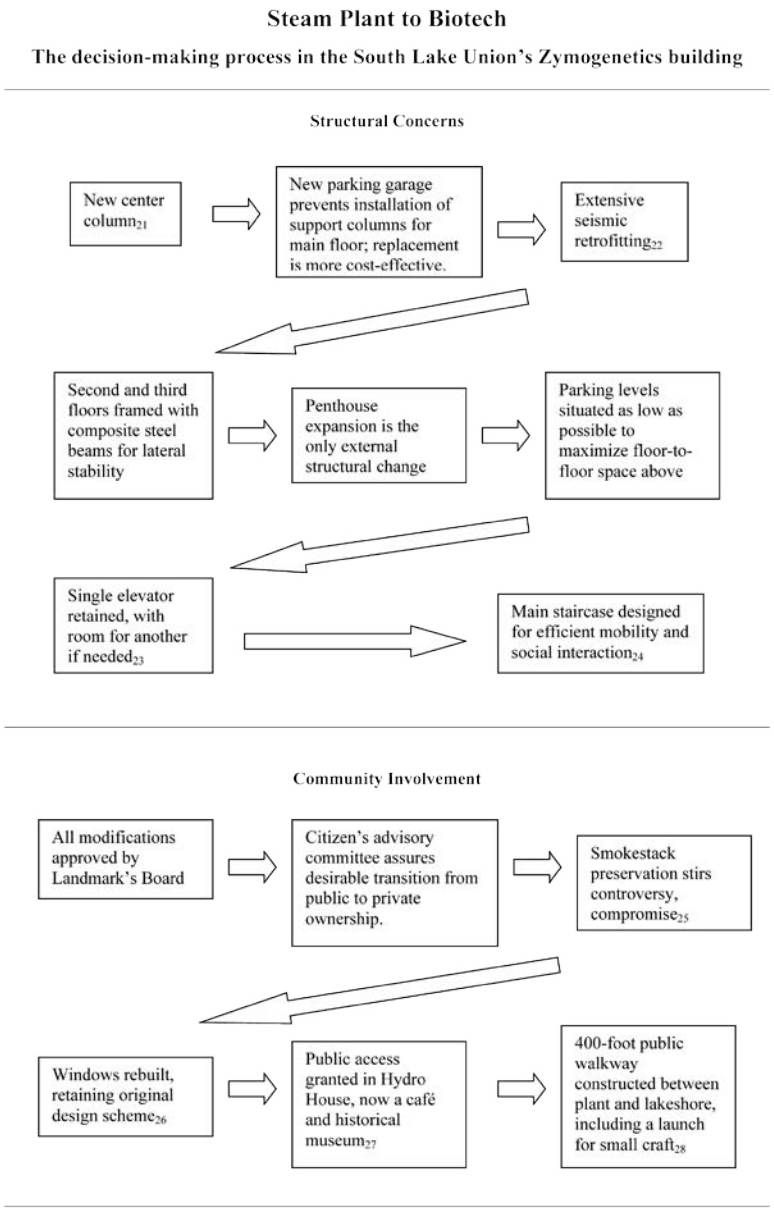
Zymogenetics emphasizes labs by orienting them toward exterior to capture natural light.

Offices grouped around building's center to encourage informal interaction. This move emphasizes the dynamic nature of biotech.

Mechanical system demand for high vertical clearance requires construction of two additional floors[19]

Two levels of parking constructed in former basement

Smokestack improvement allows expansion of former penthouse. Height restriction eased with zoning variance[20]



Decision-Making Flow Chart Annotations

1. Built in three stages, construction of the Lake Union Steam plant began in 1911, and was completed in 1922. A prominent city landmark, the plant served as Seattle's main source of power until 1938, when it shifted to an auxiliary power provider. From 1938 to1980, the plant's seven boilers remained operable.

2. In the years that followed decommissioning, the city tried unsuccessfully to find a buyer or alternative use for the building. The plant needed much repair and was extensively contaminated. The plant also became a temporary settlement for vagrants.

3. The hydro house resembles a small mission-style structure, built to generate turbine electricity from an upland reservoir. Both the plant and the Hydro House were nominated as historic landmarks by a citizen's group in an effort to save the buildings for future rehabilitation. The City of Seattle's Landmarks Preservation Board catalogs historic landmarks throughout the city. Ordinances describe rules governing maintenance and alteration of designated buildings and structures. In addition, the department adheres to standards set forth by the National Park Service's Guidelines For Rehabilitation of Historic Buildings.

4. Koll acquired the steam plant from the city in an exchange for another parcel.

5. Beginning in 1990, the proposed condominium project endured 28 public meetings with the Seattle City Council and a handful with the Seattle Landmarks Preservation Board. The designation of the Steam Plant and Hydro House as historic landmarks required thorough public involvement before commencing rehabilitation. In the adaptive reuse process, this crucial step ensures that preserved buildings will maintain desired characteristics as new uses emerge. The outcome of Koll's lengthy public involvement process resulted in gains for both the community and the developer.

6. As a financing incentive, the State of Washington issued Koll a 10-year property tax abatement.

7. A downtown in lending markets delayed residential financing significantly. It had already received deposits on 55 of the 109 units planned for the condominium project. Clearly, demand existed for residential dwellings. However, Koll struggled to secure nonrecourse construction financing. They continued to search for a

residential funding strategy.

8. Environmental clean-up costs can be substantial when restoring old industrial sites. To ease the burden and feasibility of new uses, the City of Seattle offered a $1 million discount on the price of the property if Koll accepted it in its present condition. They estimated the clean-up costs to be less than this amount. Koll declined the offer, and the city proceeded with remediation. The move paid off, as Seattle spent nearly $4 million to remove asbestos, heavy metals, oils, heavy concentrations of PCBs, and over 23 million pounds of piping, boilers, generators, turbines, and other materials.

9. Zymogenetics was considering numerous locations to house its rapidly expanding research operations. The steam plant appealed to Zymogenetics' parent company, Novo Nordisk, who supports the preservation and rehabilitation of historic buildings. Close proximity to the University of Washington also appealed to the company.

10. The steam plant's landmark designation required a new round of public involvement to ensure that biotech was compatible with the goals of the preservation board.

11. Preservation of two key building features, the smokestacks and large window bays, were mandated as a result of the public comment. Zymogenetics design scheme devised interesting strategies to integrate these preserved components into rehabilitation. Zymogenetics' vision for its new building allowed a much closer reproduction to the original design the proposed residential use.

12. Enclosed in steel and brick, seven pairs of boilers helped support main floor and columns. Boilers also anchored 92-inch diameter smokestacks extending high above the roof. Guy wires running from the columns gave stacks additional lateral support.

13. The main operating levels, the basement and the main floor, were supported by cast-in-place concrete beam-and-slab structures with high load-bearing capacity.

14. Floors were also supported by main and intermediary columns 30-36 square inches. Deep lateral spandrel beams also contributed to lateral support of building shell.

15. The large windows bays are one of the most conspicuous features of the steam plant. Their preservation recalls an era of great civic pride in public works.

16. The plant is situated on mudflats near the shoreline of Lake Union. Each of the 2000 pilings extends below the mudline to ensure structural integrity.

17. Building conversion and rehabilitation can present many challenges and opportunities. During conversion of the steam plant, crews were able to work from the top-down since the exterior shell was already in place. This gave contractors a head start on intensive rooftop structural and laboratory mechanical work, enabling teams to finish ahead of schedule.

18. The lead architecture and engineering firms were already familiar with the buildings, having worked on the plans for the initial condominium proposal. Also, the project's interior designers had recently completed a pilot project for Zymogenetics near UW. Mechanical, plumbing, and electrical subcontractors provided additional expertise. Quick calculations of cost, constructability, and performance from all parties helped save time and money. Careful planning from the outset helped teams meet Zymogenetics' requirements for space, budget, and deadline.

19. To accommodate additional floors, the existing main floor was lowered 18 inches and the penthouse was expanded. This created extra space for offices and future expansion.

20. Building height greatly exceeded current zoning limits, but the structure was grandfathered under a previous ordinance. A variance was granted to expand the existing penthouse, due to the Landmark Board's requirement to preserve smokestacks. Removing the boilers- which provided structural support for the smokestacks- required expansion of this area for alternative smokestack support. In granting the height variance, the city demonstrated its willingness to help facilitate the preservation process through regulatory compromise.

21. It was determined that new floor slabs would overwhelm the current load capacity. Improvements to pilings and other foundational aspects were halted after discovering the presence of toxic waste. A new center column following existing line of pile caps solved this problem.

22. Demolition and changes in use required strengthening and bracing to meet seismic code.

23. The original building contained only one elevator shaft, shaping a social and functional interior design scheme. Space exists for a second elevator, if needed.

24. The grand staircase and atria are the focal pieces of the building's center. The staircase is faster than the elevator, and boasts a landing dubbed 'the raft', an informal gathering place to encourage social interaction among scientists and employees.

25. Preservation of the original building's seven smokestacks was one of the leading concerns that emerged from community meetings. The issue became controversial and received coverage from newspapers, radio, and television throughout the country. Koll and the Landmarks Board eventually reached a compromise calling for six new stacks to replace seven deteriorated originals. The new stacks are somewhat smaller, but preserve the look of the originals, and also ventilate the refurbished building.

26. Community groups wished to preserve the large window bays. The crumbling, single-pane window system needed an upgrade, however. Koll installed an aluminum window-wall system of energy-efficient glass, which retained the appearance of the old windows.

27. Since the steam plant was originally a public building, many wanted to preserve public access to Zymogenetics. The company requires high security, however, so public access is granted in the Hydro House. Inside, a cafeteria is open to employees and the public, and photos document the history and rehabilitation of the plant. Also, the main lobby and staircase can be viewed through a vestibule connected to the Hydro House.

28. The company president, a former Olympic rower, strongly supported these public amenities.

Endnotes

[1] City of Seattle, Department of Neighborhoods. South Lake Union Neighborhood Plan. May 17, 2005, <http://www.cityofseattle.net/neighborhoods/npi/plans/slu/>

2 Gause, Jo Allen. New Uses for Obsolete Buildings. Urban Land Institute. Washington, DC: 1996.

3 Syal, Matt, Shay, Chris, and Supanich-Golder, Faron, Streamlining Building Rehabilitation Codes to Encourage Revitalization, Housing Facts & Findings, Volume 3 Issue 2, 2001

Appendix D
Client Assisted Memo 314

Department of Planning and Development
CAM Client Assistance Memo 314
dpd Seattle Permits
— part of a multi-departmental City of Seattle series on getting a permit

Seattle Building Code Requirements for Existing Buildings that Undergo Substantial Alterations

Updated November 9, 2004

Buildings in Seattle that undergo substantial alterations or repairs are subject to Section 3403.12 of the Seattle Building Code (SBC), which defines and lists the special requirements that apply. This Client Assistance Memo (CAM) is intended to clarify the definitions of substantial alteration and provide guidance in how the Department of Planning and Development (DPD) applies Section 3403.

When designing an alteration of an existing building, the building owner and the designer should first determine whether the project will be considered substantial. In many cases, it will be difficult to determine whether or not a project is substantial and a presubmittal meeting is advised so DPD can gather the information it needs to make a determination. If the project is considered substantial, the next step is for the designer to evaluate the building's structural and life safety systems.

It is important to note that SBC Section 3403.12 does not require a substantiallyaltered building to comply with all of the current code; it requires compliance only with specific sections. This CAM lists those sections and gives some guidance in determining how DPD will apply them.

For accessibility requirements, refer to Section 3406 which treats alterations differently.

Also, note that other technical codes may treat alterations differently. For example, the Seattle Energy Code requirements apply to the portion being altered, regardless of whether the SBC considers it a substantial alteration. Therefore, you'll want to check each technical code to determine the applicable requirements.

DEFINITIONS

The five definitions of substantial alterations as listed in SBC Section 3403.12.2 are:

1. Extensive structural repair.
2. Remodeling or additions which substantially extend the useful physical and/or economic life of the building or significant portion of the building, other than typical office tenant remodeling.
3. A change of a significant portion of a building to an occupancy that is more hazardous than the existing occupancy, based on the combined life and fire risk as determined by the building official. Table 3403.12 may be used by the building official as a guideline. A change of tenant does not necessarily constitute a change of occupancy.
4. Reoccupancy of a building that has been substantially vacant for more than 24 months in occupancies other than Group R-3.
5. A significant increase in the occupant load of an unreinforced masonry building.

TYPICALLY APPLICABLE PROJECTS

Definition 1: Extensive structural repair

Extensive structural repair occurs when the structural system of a building undergoes significant repairs. When severe deterioration of significant portions of a building's structural system is repaired, or when significant damage is repaired, the work will be considered substantial. A building which suffers severe damage in a earthquake or fire is likely to require extensive structural repair and therefore would trigger the requirements for a substantial alteration.* Typical projects which would not be considered extensive are replacement of an exterior stair or repair/replacement of water-damaged beams in a roof structure.

** Full compliance with the code is required by SBC Section 3403.6 when the cost of repair to a damaged building exceeds 60% of the building's value.*

www.seattle.gov/dpd
City of Seattle
Department of Planning & Development
Gregory J. Nickels, Mayor Diane Sugimura, Director
700 5th Avenue, Suite 2000
P.O. Box 34019
Seattle, WA 98124-4019
(206) 684-8600

Definition 2: Extending the useful physical and/or economic life of a building

Extending the useful physical and/or economic life of a building is the trigger most frequently used in determining whether a building is a substantial alteration. It is also one of the most difficult to determine, and varies considerably depending on the nature of the work being done and the condition of the building.

Routine maintenance of a building, by itself, will not trigger this requirement. Routine maintenance typically includes items such as painting, reroofing, replacement of light fixtures or replacement of plumbing fixtures. When routine maintenance has been delayed to the point where the building has suffered significant deterioration and requires expensive restoration, it may be considered substantial. Routine maintenance combined with some improvement work may also be considered substantial.

There are many ways to look at this definition of substantial alteration. Listed below are some of the criteria that are used most often.

Cost of project. Improvements to major systems such as electrical, plumbing and mechanical are often thought of as "hard costs"—the costs are relatively large and can only be justified over a longer period of time. Hard cost improvements thus more clearly extend the life of the building and carry more weight in determining whether a project is substantial. On the other hand, routine maintenance is often thought of as "soft costs"—items that are replaced on a regular basis. Many projects consist of a combination of work involving both soft and hard costs which most often will be considered to substantially extend the life of the building.

For the typical project, if the cost is high relative to the value of the building, it will be considered substantial. For example, if a project consists of new carpet, paint, upgrade of light fixtures, new toilets and sinks, a new roof and patching of plaster, and the cost is more than half the value of the building, it would probably be considered a substantial alteration. Even though most of these items alone would only be considered maintenance, the total amount of work would be great enough to justify a conclusion that the project is a substantial alteration. The fifty percent figure used here is not intended to be a fixed percentage but only as an example.

Existing conditions. A careful review of existing conditions is important in determining whether a given proposal will trigger substantial alteration requirements. A relatively new building may undergo a face lift with expensive new finish work and some minor alterations and yet not trigger special requirements, while a very old and poorly maintained building that undergoes a similar project may be viewed as a substantial alteration. There are two reasons for this. One reason is a desire to correct the more serious life-safety hazards likely to be present in older buildings. The other reason is that the relative cost of the new work in relation to the value of the existing building is higher in the older building. In this case, the ratio of project cost to building value is viewed as being directly related to the extent to which the life of the building is being extended.

Size of project relative to building size and extent of use. Alteration projects vary considerably from total building renovation to renovation of a portion of a floor; building use varies from fully occupied to completely vacant. It is the particular combination of these two items that becomes important in evaluating whether a project is substantial. A large new restaurant in a fully occupied high-rise building clearly is not a substantial alteration project. However, a similar project in an older, partially-occupied, three-story building is likely to be substantial. For example, many older downtown buildings have very limited, if any, use of their upper floors. Renovation of the tenant spaces on the lower floors of such a building, even though of a moderate size and scope relative to building size, may trigger the substantial alteration requirements.

When determining whether a project extends the useful life of a building, DPD will consider all these factors in combination.

Definition 3: A change to an occupancy that is more hazardous than the existing occupancy

A change to an occupancy that is more hazardous than the existing occupancy is determined by referring to Table 3403.12 of the SBC. Occupancies have been assigned a hazard rating based on factors such as the number of people expected to be present in the building, whether the people are awake, the amount of combustible materials present and likelihood that a fire will occur.

Questions about interpreting this trigger occur when only a portion of a building changes to a higher hazard rating. In those cases the deciding factors are generally the percentage of the building that is changing to the higher-rated hazard, and how significantly the hazard is increased. A small Group B restaurant space (combined rating of 2) that is converted into a Group M retail space (combined rating of 6) in a large building such as a high-rise will generally not trigger

the requirements for a substantial alteration because the change in hazard rating 903 (automatic sprinkler systems), and affects only a small portion of the building. However, converting a significant portion of a building from a low hazard to a high hazard rating usually will trigger the requirements for a substantial alteration. For example, the conversion of an entire floor of a three-story building from a Group S-1 warehouse (combined rating of 4) into a Group A-3 assembly space (combined rating of 12) would be considered a substantial alteration.

Definition 4: Reoccupancy of a building that has been substantially vacant for more than 24 months in occupancies other than Group R, Division 3

The intent of this provision is to ensure that buildings with low or minimal usage are properly retrofitted when they become more fully occupied. A typical example is a multistory mixed use building with a business on the first floor and vacant second and third floors. An owner who wishes to reoccupy these upper floors will be required to comply with the substantial alteration requirements of SBC Section 3403.12.

Definition 5: A significant increase in the occupant load of an unreinforced masonry building

Substantial alteration requirements are necessary when an unreinforced masonry building is changed to a use that will have a significantly higher occupant load, based on SBC Section 1004.

DEALING WITH SUBSTANTIAL ALTERATIONS

The intent of SBC Section 3403.12 is to provide improved structural and fire life safety to a building that undergoes a substantial alteration. The extent of the improvements required is based on the size and scope of work and the relative hazard that exists. The ability of the design team to assess these two items and present proposals that appropriately address the hazards is critical to ensuring a successful resolution to this key SBC requirement.

When a project has been defined as a substantial alteration, SBC Section 3403.12.1 requires that the project be made to conform with the requirements of Sections 403 (high rise buildings, when applicable), special requirements for the Fire District found in Chapter 4, when applicable, Section 716 (protection of ducts and air-transfer openings), Chapter 8 (interior finishes), 903 (automatic sprinkler systems), and Chapter 10 (means of egress). Fire alarms shall be provided by as required by the *International Fire Code*. Section 3403.12.3 requires evaluation and mitigation of seismic deficiencies. See Director's Rule 5-2004 for specific regulations for unreinforced masonry chimneys.

It is incumbent upon the design professionals to provide a critical evaluation of the adequacy of the life safety and seismic systems in the building. The basis for evaluation shall be the above-mentioned sections of the SBC, or for seismic systems, either Chapter 16 or an approved alternate standard. Director's Rule 32-96 lists approved alternate standards. The evaluation must include a detailed and prioritized list of all items found to be deficient.

Ideally, all items found to be deficient will be corrected. However, in many cases it is recognized that to remedy all deficiencies will impose severe hardships on the building owner. The building code provides DPD with significant flexibility to resolve specific hardship issues. There are three methods by which the applicant may seek relief. SBC Section 104.14 allows DPD to modify the code where the applicant demonstrates that the specific code requirements are impractical. Section 104.15 allows the applicant to identify design solutions which will provide equivalent protection. Section 3403.4 allows the building official to waive code requirements in some circumstances.

The determination to modify or waive a code requirement is dependent on the ability of the design team to provide adequate justification for a proposal. Justification may include *cost benefit analysis, functional issues, total costs, testing, risk analysis, professional judgment,* and *redundancies.* The more comprehensive and well-justified the applicant's analysis of the issues involved in the project, the more likely the applicant will succeed in obtaining approval for the proposal.

GETTING CONCEPT APPROVAL VIA A PRESUBMITTAL CONFERENCE

For many applicants it is desirable to schedule a presubmittal conference with the building official to get *concept approval* of significant code issues prior to applying for a building permit. Concept approval can greatly facilitate the plan review process and can be in the form of applicant-generated minutes which will be reviewed and approved by the building official.

The presubmittal conference is an opportunity to present your proposals and appropriate justifications, determine if your project is a substantial alteration, and

resolve code issues. To schedule a presubmittal conference, call the DPD Applicant Services Center at (206) 684-8850.

QUESTIONS?

If you have questions about the requirements for making substantial alterations, call DPD's Technical Backup for the Seattle Building Code staff at (206) 684-4630.

Access to Information

Links to electronic versions of DPD **Client Assistance Memos (CAMs), Director's Rules**, and the **Seattle Municipal Code** are available on the "Publications" and "Codes" pages of our website at **www.seattle.gov/dpd.** Paper copies of these documents, as well as additional regulations, are available from our Public Resource Center, located on the 20th floor of Seattle Municipal Tower at 700 Fifth Ave. in downtown Seattle, (206) 684-8467.

LEGAL DISCLAIMER: *This Client Assistance Memo (CAM) should not be used as a substitute for codes and regulations. The applicant is responsible for compliance with all code and rule requirements, whether or not described in this CAM.*